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CLINICS.

CLINICAL LECTURE.

Lecture on Hemicrania, or Sick-headache.—By SAMUEL WILKS, M. D., Physician to, and Lecturer on the Practice of Medicine at Guy's Hospital.

UNDER the name of cephalalgia, or headache, are included several complaints, having their seats in different parts of the cranium and its contents—viz., the bones, brain, or membranes. There are also various kinds of functional and temporary headaches, associated for the most part with disorders of the abdominal viscera, or symptomatic of all forms of fever. It would be highly instructive to consider all these varieties, with their causes, and they will be necessarily alluded to under special diseases; but there is one form which I shall dwell upon for a short time because it is so common and peculiar in its nature that it deserves a place by itself, and because, as far as I know, a good description of it has not yet found its way into medical literature. The reason of this omission probably is that medical men have cared little to make such a study of a mere functional disorder as they would of a more marked or tangible malady, and perhaps also because, personally, they had no conception of the symptoms attending it. I once knew a very eminent medical man of the melancholic temperament, who told me he had no conception of what was meant by the term headache. I am sorry to say that this is not my case, and therefore I take this opportunity to draw your attention to a malady the particulars of which are, for the most part, gathered from personal experience. I am alluding to the affection popularly known as sick-headache, or tech-

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nically as hemicrania or migraine. Like many other complaints, it is hereditary, and in a most marked degree. Thus it is a complaint met with in members of particular families, and transmitted from father to son, whilst there are other families of different temperaments in which a headache is unknown. All the members belonging to a particular family may suffer, both male and female, and therefore the complaint is not to be considered as identical with the clavus hystericus, although the latter, I have no doubt, owns the same immediate cause. This might be included with hemicrania under the term nervous headache; but if, because styled hysteric, it be regarded as a trifling disorder, there can be no doubt that the true hemicrania is a reality of the gravest kind, unfitting its victim, while it lasts, for all the avocations of life.

Being so unfrequently associated with stomach disturbance, it is often styled a sick headache; head and stomach disorders standing in the relation of cause and effect, though constantly changing places. Remembering, however, that the gastric disturbance is often greatest when the primary cause is in the brain, the term hemicrania is not an unfit one; for, as a rule, although the pain may reach far over the head, it is most usually fixed to one spot, or is more concentrated on one side than the other. It may commence as a dull pain over the forehead, then, as it increases, pass down to one eye, and so to the temple, where it remains fixed. Exceptionally the pain is at the top or back of the head. The pain is sometimes so violent as to deserve the name of neuralgia, but generally it is somewhat duller and of a most sickening character. Its great peculiarity is the throbbing that occurs with each beat of the heart, aggravated by every movement of the body, and more especially of the head itself. The movements required for washing and dressing on rising can scarcely be endured. The sufferer walks slowly, since everything which tends to make his arteries beat a degree more violently adds to his misery; in his head he perpetually hears or feels "throb," "throb," "throb," and his only relief is to support the head against a pillow or rest it on the hand, and avoid all possible excitement. His whole attention is distracted by the painful throbbing, and he becomes utterly incapacitated for business; every movement, every word spoken aggravates the pain. His only desire is to be let alone and be unspoken to. During this time he looks exceedingly ill, very pale, with a dark margin round the eyes, and the pupils contracted; there is a general feeling of chilliness over the whole body, excepting the head; the pulse at the wrist is feeble, whilst that in the head is strong. The anorexia is complete; the loathing of food so great that it is often impossible to swallow a single mouthful of food, and sometimes there is actual vomiting. In a bad attack the stomach generally refuses food for twenty-four hours. There may have been no error of diet to account for the attack, nor any constipation of the bowels, as is often thought; although a disturbance in these parts is often one of the symptoms of the complaint. The duration of a bad attack is generally several hours. If the person awake with it, the headache persists during the day, and it is only after another night's rest that he rises free. If it should come on during the day, it gradually increases in force, and then the night brings little comfort, for the throbbing, aching head entirely precludes sleep. When the attack is less severe, there is, fortunately for the sufferer, a strong disposition to slumber—he lays his head against any surface, and readily sleeps. I have observed in my own case that if, during the evening, I feel sleepy, and on lying down, very quickly become insensible, on the following morning I rise with the headache. How far the sleepiness induces the subsequent attack, or how far it is a mere symptom of the approaching disorder, I am uncertain, but I am inclined to think the latter.

Now, as to the cause of this misery, I have already said that whilst the body is cold the head is hot, and that whilst the radial artery is small the carotid is full; in fact, if the term determination of the blood to the head is applicable to any malady, it is assuredly to this. This irregularity in the circulation due to nervous influence has created much interest of late years, as I have already told you in describing various diseases. It has been clearly shown that the bloodvessels are regulated in calibre by the sympathetic nerves, and that the supply of blood is immediately under nervous control. Now, in this complaint of which I am speaking, the carotid on one side with its branches is dilated, throbs inordinately, and sends too much blood to the

brain and its coverings. The fact I knew when quite a boy, for when leaning my head on my hand I distinctly felt the increased size of the throbbing temporal artery on the side of the pain, which would be sometimes on the right and sometimes on the left side. I remember mentioning the circumstance to more than one medical man, and they received the statement with incredulity. I knew it, however, to be a fact, nevertheless, and am sorry to say I have been too fully aware of it up to the present day. The fact is, that in this dilated throbbing carotid and its branches lies the source of the trouble. The vaso-motor nerve on one side is for the time paralyzed, the vessels of the head dilate, more blood is sent to it; and thus the increased heat, throbbing, and pain which the patient has to suffer until the tone of the nerve is restored. The most important question to solve is the immediate cause of the function of the nerve being thus temporarily in abeyance. Since a stomach derangement usually accompanies the hemicrania, it is very frequently thought that the source of the trouble is always gastric, and that medicine of a particular kind will relieve. That this is partially true is no doubt correct, but just as frequently the complaint arises from a direct influence on the nervous system. Besides, if arising from the stomach, the cause is not the same as that which operates injuriously in the mass of people from over-indulgence in eating and drinking, and which produces a more general headache in consequence, but the cause is a slighter one, and dependent upon a number of trivial circumstances which the sufferer himself alone could detail. It may be said, no doubt with truth, that gastric derangement is a very common exciting cause in those who are subject to the complaint, but very frequently no cause for the attack is apparent, and certainly none attributable to the stomach. When the cause is evident, it is very often one which has acted directly on some portion of the nervous system, and to the non-susceptible would scarcely be credited with so powerful an operation. Thus all worry, excitement, or overwork will readily produce a headache; walking in the sun is a very sure method of inducing an attack; strong impressions on the olfactory nerve, as the smell of paint, and in some persons the odour of spring flowers; also impressions on the retina, as long use of the microscope, or a protracted visit to a picture gallery. An atmosphere overcharged with carbonic acid is one of the most fruitful sources of headache, as that of a crowded assembly-room, and what would affect myself at once and in the most intense degree would be the presence of unconsumed carbon from candles or lamps. Loud noises in the ear will also cause a headache; and, in fact, it would seem that a strong impression made upon any part of the nervous system is sufficient to induce an attack. Probably derangements of any organ might also bring it on, as of the stomach, which we constantly see, and in women the uterus, more especially at the catamenial periods. Some of the most violent attacks which we witness are in women at these periods. There are those who are doomed every month to an illness of a few days with intense headache, prostration, and sickness; if there be much uterine pain, the case is styled one of dysmenorrhœa, and the cause attributed to the uterus, which may or may not be true. Those, both men and women, who are thus liable to these violent headaches are proscribed many of the pleasures of life, since irregularities of any kind are so apt to lead to their wonted complaint. Under the most favouring circumstances, however, it is my experience that they can never escape an occasional attack.

As such trivial causes are sufficient to induce an attack of this hemicrania or migraine, it might be supposed that some equally slight circumstance might be sufficient to counteract or cure it. I should think it probable that such is the case, although, after long searching for the remedy, I have not yet discovered it. Certainly the ordinary aperient doses which the medical man so commonly prescribes for a headache are useless; besides, the attack may have spontaneously subsided before there could be any expectation of a result from the medicine. The act of vomiting, however, does in some cases afford very speedy relief. This is not by getting rid of any crudities, for the stomach may be empty, and therefore the effect must have been through the nervous system. As regards stimulants, as a rule they cannot be prescribed; they often aggravate the complaint to an intense degree, although I have found that in some milder cases a little brandy-and-water or a glass of cham-

pagne has, after a short period, been apparently beneficial; sometimes a cigar. Of all remedies, perhaps tea is the best, but I am not quite certain what amount of benefit is to be ascribed to the tea and what amount to the hot water. Tea, of course, is well known to have a direct and marked action on the nervous system, and thus it might appear absurd to raise a doubt as to its efficacy did not I know more than one person who obtains more relief for a headache by sipping very hot water than by any medicine which has ever been prescribed.

Those who have any knowledge of the perpetual and horrible throbbing in the brow or temple, also know that nature prompts relief by pressure on the aching part. The leaning the head against the hand or other object is in obedience to what instinct dictates. On lying down, the aching brow is always pressed against the pillow. By more direct and intentional pressure a more marked relief is obtained. Thus, a pressure on the carotid in the neck will produce a suspension of the throbbing and the pain, but the effect is only for a time, as the blood apparently soon finds its way to the head by other channels. Although the use of pressure may at the present time have a show of reason, it has no doubt always been adopted at the dictate of nature. It is probable that medical authors may allude to the method, but we need only go to our own Shakspeare, who appeared to be possessed of universal knowledge, to lead us to the belief that it must always have been in common use. Thus, in the scene between Hubert and Arthur, in King John, when the latter is petitioning for the preservation of his eyes:—

> "When your head did but ache,
> I knit my handkerchief about your brows."

Also, as you know, in "Othello"'s the main feature of the play lies in the loss of a handkerchief, which Desdemona produced for the object I have been mentioning.

Desdemona. Why do you speak so faintly?
Are you not well?
Othello. I have a pain upon my forehead here.
Desdemona. Faith, that's with watching; 'twill away again:
Let me but bind it hard, within this hour
It will be well.

Then, again, besides pressure, the application of cold gives relief, as a wet cloth bound round the temples. I have already alluded to the effects of cold and heat upon the nerves, and the resultant influence on the bloodvessels; thus, cold is said to depress the action of the nerve-centres or ganglia, and heat to excite it; consequently the former would be used when we wished to remove nerve stimulation and cause a greater flow of blood, whilst heat would be used for a contrary purpose to check hemorrhage—at least, I believe it is said, for example, that heat to the spine will repress hemorrhage from the uterus, whilst cold would produce warmth in the extremities. However this may be, and supposing the theory true, there may be immense difficulties in the way of making the application to the appropriate part; it is cold, and not heat, which affords most relief in this form of headache. It may be that the cold acts directly on the vessels to constringe them, and thus causes their diminution and lessened blood-supply. The object required is to lessen the size of the vessels, for it is certain that whilst the pulse at the wrist is low, and the whole body inclined to be cold, the head is hot and throbbing. As the cause is nervous, our agencies should be directed to the fountain-head, and thus it is by no means improbable that something may be discovered which may have the power of stimulating the sympathetic in the neck, and cure the malady. For this purpose various remedies have suggested themselves, and I am not sure that in nux vomica some efficacy may not be discovered. Theoretically galvanism to the neck or head would be beneficial. I have only used it a few times, and with some success.[1]

The immediate seat of headache is not known; various opinions have been given. Many have denied that it is in the brain itself, seeing that the organ may be diseased in various ways without pain being present. Some have considered that the pain resides in the dura mater, and occurs through the branches of the fifth nerve which are distributed to this membrane. Briquet, who has in his investigation of various hysterical conditions shown that local pains are in the muscle, or myalgic, considers that headache is of the same kind,

[1] Since this lecture was delivered the late Dr. Kennion, of Harrogate, recommended [see Am. Journ. Med. Sci., Oct. 1868, p. 559] the local application of the vapour of the bisulphide of carbon. I am now prescribing it, and, I think, with benefit.

the seat of it being in the temporal and occipito-frontalis muscles. I suppose one's own feelings ought not to influence the judgment; otherwise it would be thought that the pain is situated in the very depths of the brain itself.—Med. Times and Gaz., Jan. 2, 1869.

HOSPITAL NOTES AND GLEANINGS.

Case of Aortic Regurgitation from Injury to the Valves during Muscular Effort.—Dr. Henry Simpson, Phys. to Manchester Royal Infirmary, reports (British Med. Journal, Aug. 15, 1868) the following interesting case:—

J. B., a strongly built man of 40, had good health up to the time of this occurrence. About four years and a half ago he was helping to carry a piano down stairs, when he suddenly felt something give way in his chest, and immediately heard a noise proceeding from it, which he compared to that "made by a young frog," and imitated by a sort of croaking. It was audible to those about him as well as to himself, for about nine months, becoming gradually weaker, and at length ceasing. He felt no pain or faintness at the time, and went on with his work as if nothing had happened. For about two years he felt no inconvenience, but then began to be troubled with tightness in the chest, occasional palpitation, flatulence and giddiness, He, however, followed his work as doorkeeper at a railway-station until fifteen weeks before his admission to the Manchester Infirmary. He was then suffering from dropsy, which continued ever since.

On February 5th, 1868, the pulse was observed to be of a typically regurgitant character, and to be remarkably visible in the radial and ulnar arteries; and the dorsal arteries of the feet when the œdematous swelling was pressed aside. The chest resonance was good, and the respiratory sounds normal. The præcordial region to the left of the sternum was rather prominent; the apex-beat was felt over a somewhat extensive area, its limit to the left being an inch and a-half outside the nipple; and the transverse dulness measured five inches and a-half. The first sound was everywhere extremely feeble and unaccompanied by the slightest murmur; but the second sound was almost entirely replaced by a prolonged musical murmur of high pitch, audible over the whole front of the chest, but of greatest intensity just above the level of the fourth cartilage. It was audible from the occiput, on the left of the spine, to the lumbar region, and on the right, to the middle of the inter-scapular region. The urine was scanty, loaded with lithates, but free from albumen. The tongue was clean and moist. He slept little, and on the least exertion suffered much from dyspnœa. His face was pallid, but there was no lividity. In a day or two some dulness began to appear at both bases with fine subcrepitant *rôles*, and the expectoration became hæmorrhagic. Effusion took place into both pleuræ; the urine became slightly albuminous; and his condition more unfavourable. On the 17th, the notes state that he had a very bad night. The expectoration contained a good deal of blood. Pulse 108; respiration 28. The urine was not sufficient to obtain the specific gravity; it was slightly albuminous. During the day he felt better and conversed cheerfully with the other patients. About six P. M. he suddenly raised himself up in bed, saying he was choking, and fell back dead.

At the inspection, a good deal of fluid was found in the peritoneal cavity, in both pleuræ; and about two ounces in the pericardium. There were no pleuritic adhesions. Both lungs were œdematous, and slightly emphysematous at the anterior edges. Several nodules of pulmonary apoplexy were found, all recent, but one of somewhat older date than the rest. There was no tubercle. The heart (which was exhibited) weighed 24 ounces. The right auricle was enlarged and filled with partially decolorized clot, which passed into the right ventricle. This was dilated and its walls flaccid. The left ventricle was dilated and its walls greatly thickened. The aorta was slightly dilated, its coats were thickened, and contained several calcareous plates just above the insertion of the valves. The segments of the valves were rather thick and leathery, and somewhat shrunken. Two of the points of attachment were normal, whilst the third was at a lower level. Before opening the vessel it appeared nearly a quarter of an inch below the others, and the attachment of the adjacent segments was separated by more than the eighth of an inch. This stripping down of the attachment of the valves allowed free

bending down, towards the ventricle, of the two segments, and produced marked incompetency, as was tested by a stream of water from above. The mitral valve was perfectly healthy, and did not allow of the slightest regurgitation. This point was tested most carefully. The abdominal organs were congested, but otherwise healthy, with the exception of one mesenteric gland, which was converted into a bone-like mass nearly as large as a walnut.

The points of interest in this case are: the distinctness of the history, given by an intelligent man; the absence of pain or faintness at the time of the accident; the slight inconvenience felt for a considerable period; the hypertrophy of the left ventricle; and the production of secondary effects on the pulmonary and systemic circulation without the existence of any mitral insufficiency. Dr. Walshe states that he has scarcely ever seen pulmonary apoplexy except as the result of mitral disease, but that dilated hypertrophy may produce it. In this case there was one mass of the size of a large orange, and several smaller ones. I am of opinion that the great incompetency of the aortic valves allowing of the falling back of a large stream of blood, which interfered with the onward flow from the auricle into the ventricle, must have had a greater share in its production than the hypertrophy.

—

On Operations for Caries of Bone.—Mr. Le Gros Clark, Surgeon to St. Thomas's Hospital, maintains (British Med. Journal, Oct. 24, 1868) the following views:—

"As regards operations for the removal of carious bone, I cannot say that my experience justifies my recommending the proceeding of gouging out the diseased texture. My belief is, that violence thus offered to the parts often involves the surrounding healthy bone in diseased action, and thus leaves the patient in a worse state than before. The condition is analogous to that of an excavated ulcer in soft parts, and seems to me to be more amenable to treatment adapted to such state. Sinuses may be freely laid open, and suitable dressing employed, to encourage a healthy action and spontaneous cure. But I am aware the weight of opinion, as regards the general practice, is adverse to this negative treatment."

Such has been my practice for many years; and I may add that I have found considerable advantage in the use of diluted acetic acid (which I have latterly substituted for phosphoric) as a bone-solvent, as well as a stimulant in carious cavities which have been previously laid freely open by external incision. Caries is usually primary; rarely secondary on ulceration of the skin surface, but not unfrequently so, by extension of disease from a synovial surface. In the knee-joint, this secondary condition, destroying the cartilage in its progress, is often met with; and I think still more frequently in the tarsus, where the continuity of the synovial membrane favours and guides the extension of the disease.

—

The Antiseptic Ligature of Arteries.—Mr. Maunder, Surgeon to the London Hospital, ligatured the left carotid artery, on the antiseptic principle. The vessel, he says, was secured on the plan recommended by Professor Lister, the ligature having been soaked in carbolic acid, cut short, and the wound closed, &c. Scarcely any action was set up about the wound, and in less than a month from the deligation (as I am informed by the patient's medical attendant, who watched the case very closely) the wound had healed, the silk thread did not come away, and he was gone to the seaside. On a former occasion, having ligatured the subclavian and common carotid arteries in the usual way, I mopped out the incisions with carbolic oil, and covered them in with carbolic dressings. Up to the sixth day, when the subject of this double ligature died, almost no action had been set up in the wounds. I quite believe the antiseptic ligature of arteries will greatly diminish the risk of secondary hemorrhage. —Lancet, Nov. 7, 1868.

MEDICAL NEWS.

DOMESTIC INTELLIGENCE.

Carbolate of Lime in Pertussis.—Dr. Snow, of Providence, R. I., has suggested the use of carbolate of lime in hooping-cough, and in all cases it has apparently produced a marked effect in diminishing the frequency and severity of the paroxysms. Small quantities of the carbolate of lime are placed in saucers in the room where the

child sleeps; merely sufficient to make the odour perceptible.—The Med. Record, Jan. 15, 1869.

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Surgeon General's Report.—The Annual Report of the Surgeon General U. S. A. for the fiscal year terminating June 30, 1868, states that for the *white troops* the number of cases of all kinds reported under treatment was two thousand nine hundred and eight per thousand of strength—nearly three entries on the sick report during the year for each man. The proportion of deaths from all causes to cases treated was one death to ninety-seven cases. Twenty-two per thousand of strength were discharged upon surgeons' certificate of disability.

For the *colored troops*, the number of cases of all kinds treated was three thousand and sixty-one per thousand of strength, or three cases of sickness for each man. The proportion of deaths from all causes to cases treated was one death to fifty-five cases. Nineteen per thousand of strength were discharged on surgeons' certificate of disability.

The Army Medical Museum continues to increase in value and usefulness.

At the date of the Report (Oct. 20, 1868), there were forty-nine vacancies in the grade of Assistant Surgeon.

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The College of Physicians of Philadelphia have a large number of duplicate works on the various branches of medicine. Some in handsome bindings, which they are willing to dispose of at very moderate prices, thus offering a good opportunity for physicians to complete their libraries at a moderate expense. Application for these works may be made to the Librarian, ROBERT E. BRIDGES, M.D., at the Hall N. E. corner of Locust and Thirteenth Streets.

FOREIGN INTELLIGENCE.

Deaths from Chloroform.—A case of death by chloroform is reported (Brit. Med. Jour., Dec. 19, 1868), in London. A druggist, who had been in the habit of taking chloroform to relieve pain in the face, was found dead in the evening with a handkerchief in his right hand and an empty phial, which had contained chloroform.

Another case of similar kind is recorded by Dr. W. B. SLAYTER in Provincial Medical Journ. (Nov. 1868), a delicate man was found dead in his bed, with a bottle of chloroform lying beside him. From the evidence at the inquest it appeared that he had been in the habit of inhaling chloroform from time to time to relieve the paroxysms of asthma. On the night of his death he took a little over an ounce.

The same physician records, in the same journal, still another case, which occurred in the Provincial and City Hospital. A man, aged 40, was placed under the influence of chloroform for amputation of thigh owing to inflammation of knee joint. Chloroform was administered in the usual way on a towel. In a few minutes the patient was fully under its influence, breathing good, pulse strong The limb was then amputated about the middle third of the thigh, the arteries were tied without delay, and about the usual quantity of blood was lost. Immediately the leg was off the chloroform was discontinued, at that time the patient was breathing naturally and the pulse was very good. About three or four minutes after this, the teeth became firmly clenched, respirations stertorous and gasping, pulse very small and skin covered with a clammy perspiration. The jaws were immediately forced open and the tongue drawn forwards; artificial respiration, stimulants and other remedies were applied but in vain. The patient died about ten minutes after the first alarming symptoms set in. On examining the diseased joint the synovial membrane was found to be converted into a gelatinous mass; the cartilage covering the inner condyle was perfectly sound, that covering the outer condyle, the heads of the tibia and fibula was completely destroyed and the bones roughened. Post-mortem examination about 30 hours after death. The heart substance, valves, and aorta, were perfectly healthy, cavities quite empty. The lungs, stomach, spleen, intestines, and kidneys were all healthy but quite pale from want of blood. The brain was quite pale, and its bloodvessels empty.

At Wrexham a coroner's inquest has shown (Med. Press and Circular, Nov. 11, 1868) that death occurred from this agent, properly administered by a qualified man for an operation for fistula.

At Leicester, Mrs. Adams, thirty-three years of age, died from the effects of chloroform given for the operation of extracting the stumps of several teeth. The evidence at the inquest showed that every precaution

was used, her own attendant and another medical man being present. The jury found that deceased died from chloroform, "in reference to which more than usual precaution had been taken." These cases show the dangers that exist even in the hands of skilled persons.—Med. Press and Circular, Nov. 11, 1868.

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On the Sounds of the Heart.—Dr. Arthur Leared maintains (Lancet, Sept. 26, 1868), that, in common with every other sound formed by the circulation, the sounds of the heart mainly emanate from the blood itself. They are not *essentially* due to the vibration of valves or to the tension of muscle; and if these causes do contribute in a minor degree to form the sounds, either exceptionally or constantly, his argument is not affected thereby.

If the blood of natural consistency circulated in its vessels under the natural pressure and without any rhythmic motion, no sound whatever would be caused. But since it is thrown into broken and impetuous currents by the action of a powerful forcing pump—for such the heart is—sounds are necessarily produced. These sounds are formed on the same principle as those which occur from the action of water in certain hydraulic apparatus.

But besides rhythmic motions, certain conditions must be present to produce the particular sounds in the heart which we associate with health. If one or more of these conditions be wanting, it either happens that the sounds formed are nearly inaudible, as in case of extreme debility of the heart, or else new sounds are developed, which indicate particular forms of disease.

Both the first and the second sound of the heart are formed by the blood in the commencement of the aorta and pulmonary artery, and the mechanism of both are closely allied.[1] It will best serve my purpose to quote here in part what I have already published on the subject.

"The *first sound* coincides with the ventricular systole, and is caused as follows: Blood, having been driven from the ventricles into the aorta and pulmonary artery, comes into forcible contact with blood in these vessels, which, supported by their semilunar valves, had attained a state of momentary repose. The impact between the fluid in motion and that in a state of rest gives rise to the sound. The well-known *thud* heard during the action of the common forcing-pump is chiefly due to an analogous cause; that is, to the impact between water thrown into violent motion and stationary water in the discharge-pipe.....

"Four conditions are necessary for the production of the perfect first sound: 1. Sufficient viscidity of the blood. 2. Sufficient pressure upon the blood. 3 Sufficient force in the circulation. 4. The absence of obstruction at the outlet of the heart When all these conditions are fulfilled, the result is a perfect shock sound. If, however, the first condition (viscidity) be wanting, we find in place of it the blowing sound of anæmia. Pressure on the blood prevents murmur by preventing friction. When the pressure is much diminished by hemorrhage, the first sound in this case also changes to a murmur. The force of the adult left ventricle has been variously stated; but the estimate of Valentin, that it is sufficient to overcome a resistance of four pounds, seems probable. It is at all events certain that when the force of the heart is much diminished, as occurs in certain fevers, and in syncope, the first sound becomes impaired, or is altogether lost. The fourth condition—absence of abrupt interference with the current—is resolvable into the second. For any obstruction at the mouth of the aorta or pulmonary artery, whether it be obstruction of its calibre or the projection of an atheromatous deposit must cause diminished pressure in the vessel, beyond the obstruction." The principles upon which a murmur is then formed will be hereafter explained.

"The *second sound*[2] occurs during dias-

[1] On this point, the assertion of so competent an authority as Cruveilhier is worth quoting. In his examination of an infant born with the heart exposed, he found that the maximum intensity of both sounds was at the same place—the base; and he observes: "Hence it is at the base of the organ we are to look for the cause of these sounds." Cruveilhier, Gaz. Médicale de Paris, 1841.

[2] The cause of the second sound is that about which opinions are at present most agreed. It is assigned to vibration of the sigmoid valves by those who differ widely in respect to the first sound. As might be expected, therefore, my explanation of the formation of the second sound has been less generally regarded favorably than has that which I have given of the first sound. But in the British Medical Journal, May, 1866, Dr. Shapter put forward the same views about the second sound. On the publication of my statement that he had been anticipated (Ibid. Aug. 4th, 1866), my priority in the matter was acknowledged by Dr. Shapter in courteous terms (Ibid., Sept. 1st, 1866.)

tole, and in its mechanism closely resembles the first. The blood having been driven with much force into the aorta and pulmonary artery, a portion of it recoils, but is checked in its rapid descent towards the heart by the semilunar valves. The sound is caused by the concussion thus induced, the force of which is, however, by no means sustained by the valves alone, for they are thoroughly supported by the ventricles and their contents. This is obvious since there can be no approach to a vacuum in the heart. The valves are to be regarded as separating media which do not themselves sustain the force of the descending blood. A valve thus supported is known in the arts as an equilibrium valve. An experiment at hand in most houses demonstrates the principle on which the second sound is formed. When a cock, attached to the lower end of a perpendicular pipe of some length, through which water is flowing from a cistern, is suddenly turned, a loud jarring sound is heard.[1] It is caused by a concussion in the water from the sudden arrest of its onward flow. The semilunar valves are here represented by the plug of the cock, and, allowing for the difference between rigid and flexible materials, the conditions are very similar, since the elastic reaction of the vessels effects a pressure on the blood which is effected in case of the water by length of the pipe. If, then, the pipe and cistern are capable of yielding a sound which may be heard at a considerable distance, it cannot be wondered at if the heart and its vessels, on the same principle, give rise to sounds audible through a stethoscope, or by direct contact with the body. If the cock is only turned so as to allow even a small portion of water to pass through, a rushing sound (in this case continuous) results The change of the normal second sound into a murmur from incompetency of the valves is thus demonstrated. The second is a sharper and shorter sound than the first, because the separation between the opposing blood is definite and complete. We have seen that in case of the first sound several conditions are necessary to insure sufficient molecular cohesion in the separate bodies of blood at the moment of contact which must also be accompanied by considerable force. But the intervention of valves in the present case causes the conditions to undergo considerable modifications. Less force is requisite. It is for this reason that loss of power in the heart affects the first sound so much sooner than the second. Viscidity of the blood is not a necessary condition; hence in anæmia the second sound never degenerates, like the first, into a murmur. On the other hand, a condition peculiar to the second sound is, that the valves shall be competent. If the closure of the aortic valves is imperfectly performed, the well-known bruit from aortic regurgitation occurs, and this may completely supplant the normal second sound."

The fact that the second sound is often replaced by a murmur of moderate loudness, so that any other sound would not be drowned by it, affords a strong proof that the normal sound is formed by concussion of blood, as already described; for if it were caused by vibration of the aortic valve, the closure of even one segment of it, supposing, as is often the case, this to remain healthy, would *pro tanto* be sufficient to produce a normal sound that would always be heard coincidently with the abnormal sound.

Dr. L. thinks that no other theory satisfactorily explains the change of the first sound of the heart into murmur, and never of its second sound, in cases of anæmia and of great loss of blood.

[1] An effectual method of preventing this noise is sometimes adopted. It consists in connecting the part of the pipe above, but close to the cock by means of a small tube with a chamber containing air, by whose elasticity all concussion is done away with. I am curious to know whether the sounds of the heart have ever been observed to have been wanting in cases of admission of air into the bloodvessels; for if the air had reached the aorta, I would expect the second sound at least to be annulled.

Treatment of Epilepsy.—Dr. Hermann Beigel, writing on this subject, says (Lancet, Dec. 26, 1868), there are two drugs in which confidence may be placed, viz: bromide of potassium and hypodermic injection of morphia. It is now a well-known fact, that the former, when used in very large doses, has the power of postponing the paroxysms, and, in some instances, to make them disappear altogether. Hypodermic injections have the power of producing the same result in a much shorter time. It is very difficult to explain why the action of morphia is different when given internally and when applied hypodermically, but that such is the case has been confirmed by reliable observers.

At the meeting of the Clinical Society, Dec. 11, Dr. B. remarked that the most important remedy for continuous administration was the bromide of potassium. He further strongly recommended the subcutaneous injection of morphia, guarded by atropia, in the manner suggested by Dr. John Harley (see *American Journal of Medical Sciences*, Oct. 1868, p. 548), immediately before an apprehended attack, as a means of warding it off, or at least of modifying its violence.

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Angina Pectoris, depending upon Occlusion of the Mouths of the Coronary Vessels. —In the 17th volume of the Pathological Transactions (London) Dr. DICKINSON has recorded three cases of this. Dr. WADHAM reports (Lancet, Oct. 24, 1868) the following case occurring under his care:—

Samuel B., aged 64, was brought into St. George's Hospital dead. The history that was obtained was, that he was in the park in company with a young woman, when he suddenly complained of dyspnœa and tightness about the throat, and that he then staggered and fell. The only previous history that could be obtained was, that he was subject to similar attacks, and was known to have heart disease.

On post-mortem examination, the body was found to be that of a well-nourished man. There was no rigor mortis; and there was no mark or abrasion on any part of the body. The glans penis was covered with spermatozoa, and from this fact it was surmised that he had died during the act of sexual intercourse, the excitement having produced a paroxysm of the disease from which he suffered. The brain was congested, and the puncta vasculosa were increased in number; the sinuses also, and the veins of the corpus striatum and choroid plexuses, were full of blood. There was a slight excess of fluid in the subarachnoidean space. The lungs were slightly congested, but otherwise quite natural. The heart was of large size, weighing fifteen ounces, and was covered with a very considerable layer of fat. Both ventricles were in a state of semi-contraction, and contained a little fluid blood. The structure was rather soft and fatty, and of a paler colour than natural. Under the microscope, an increased amount of fat-globules were seen, but the muscular striæ were well marked. The valves were blood-stained. The arch of the aorta was covered over by large patches of "soft" atheroma, situated beneath the lining membrane. One of these patches was immediately above the left coronary artery, the orifice of which it overlapped and had contracted so much that it was not possible to introduce a fine probe. The orifice of the right artery was also very considerably contracted from the same cause, though not to the same extent. The coronary vessels themselves were quite natural, with the exception of one or two slight specks of atheroma. All the other organs were natural, except that the kidneys were in a very early stage of granular degeneration.

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Nitrate of Silver in the Treatment of Headache. — Dr. VIGNARD recommends (Bull. Génér. de Thérap., 30 Mai, 1868), nitrate of silver, in large doses, as an efficient treatment for obstinate headache. He describes the case of a female who had suffered under this painful affection for more than a month, and who had been unsuccessfully treated with opiates, but who recovered perfectly after a few doses of this remedy. He believes it to be most useful in anæmic cases. It was prescribed as follows: Nitrate of silver, one grain and a half; bread, quant. suff. Divide into six pills—one to be taken every hour.—Edin. Med. Journ., Dec. 1868.

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Catarrhus Vesicæ.—This disagreeable chronic complaint is often very obstinate; it may, therefore, be stated that M. Mallez has found the following solution injected into the bladder very efficacious: Water, ten ounces; tincture of iodine, forty-five drops; iodide of potassium, fifteen grains. When the pain is very annoying, add fifteen grains of extract of belladonna to the above. He has also employed carbolic acid, nitrate of silver, and hyposulphite of soda with advantage.—Lancet, Jan. 2, 1869.

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Physostigma in the treatment of Tetanus. —Mr. ALEXANDER has notes (Glasgow Med. Journal, Nov. 1868) of eight cases of tetanus treated by the Calabar bean. Of these cases six recovered and two died. These were all acute traumatic cases of tetanus, some of them very severe, and all of them warranting the most unfavourable prognosis. Indeed, Dr. A. believes that a similarly good result could not be shown in such cases by any other kind of treatment, It ought to be remarked, likewise, that one

of his fatal cases (Lancet, 1868) was really not treated at all, as the man was dying when he saw him, and he only doubtfully swallowed one dose of the remedy.

Mr. Francis Mason reports in the Lancet (Oct. 10, 1868) a fatal case of traumatic tetanus which was admitted into the Westminster Hospital and treated with Calabar bean. Although the physiological effects of the ordeal bean were produced in this case, no influence for good appeared to be exerted over the course of the tetanus.

Mr. RIDOUT, in the same journal (Oct. 31), reports another fatal case, in which the doses given were considerable. The physostigma appeared to retard the progress of the case and to mitigate the severity of the symptoms, but never completely to control them.

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Oil of Turpentine in Traumatic Tetanus.—Prof. Lücke, of Bern, relates (Berliner Klin. Wochenschr., Nov. 9) several cases in proof of the great utility attending the local application of oil of turpentine in traumatic erysipelas, the redness disappearing in two or three days, and the temperature falling in a remarkable manner. This effect was more rapidly produced by rubbing in the turpentine than by merely pencilling with it. The diminution of temperature was observed even in cases in which the erysipelas for a while continued to spread. No local irritation results from the application of the turpentine, the patient only complaining of a temporary feeling of burning. —Med. Times and Gazette, Jan. 2, 1869.

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Amputation of the Uvula.—With a view to prevent, in great measure, the painful sensations arising from the passage of a bolus of food across the raw stump of a previously elongated uvula, Mr. MAUNDER proposes to amputate this organ by the double flap method. These fall together, and their cut surfaces being in contact, no raw surface is exposed to irritation. He recently adopted this plan with a highly satisfactory result, introducing a small suture to maintain coaptation of the flaps.—Lancet, Aug. 22, 1868.

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Abscess in the Cheek extending into the Skull.—In this case, Dr. MACKENZIE BACON remarks, a very ordinary ailment took an unusual course, and proved rapidly fatal. It could hardly, perhaps, be predicted that an abscess around a carious tooth should extend into the skull, traverse the base, and terminate in the orbit of the opposite side; yet this is what happened, and the post mortem left no doubt as to the actual course of events. The outline of the case is as follows:—

A man aged 45, a patient in the Cambridgeshire Asylum, had in June, 1868, the left side of his face swollen in consequence of an abscess around the last tooth in the lower jaw on that side. The patient was a general paralytic, in feeble health, and in an advanced stage of dementia. He said very little, and was very dull and apathetic. After a few days the abscess burst inside the cheek, and the swelling subsided, but a few days later, on looking at the man one morning, it was noticed that his right eye was prominent, the whole orbit being distended, and the globe bulging out. This increased the next day; the conjunctiva projected above the level of the cornea, and was congested, and the skin around became livid. The patient got gradually comatose, and died in two days.

Post-mortem Examination.—On opening the skull, which was very dense, the brain seemed tolerably healthy to the naked eye, but on removing it a broad patch of discoloration was seen at the base where it rested in the middle fossa of the skull, more extensive on the right lobe than the left. The damaged part was dark from decomposition and covered with fetid pus. A broad line of dark, fetid, decomposing tissue, with pus, could be traced from the left ala of the sphenoid across the sella turcica into the right orbit, which was distended with pus and fluid. The line of inflammation was afterwards traced downwards through the superior maxilla and muscles of the cheek to the last alveolus of the lower jaw, where there was a loose carious tooth surrounded by pus. Around this tooth was a mass of fetid tissue, to which the mischief had been at first limited.—Med. Times and Gazette, Nov. 21, 1868.

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The Alkaline Sulphites.—Now that Lister's antiseptic method has found so much favour, it would be well to turn to Polli's system. Starting from the current notion of the existence of zymotic diseases, the Italian professor gives doses of the alkaline sulphites in these complaints. He considers that these salts act by modifying the

morbidly fermenting matters, the economy being then able to resist their noxious influence. Dr. Ferrani has published two cases of pyæmia in the *Annali* of this year wherein he succeeded in arresting the disorder. One was the result of the bite of a dog on the knee; the other, a case of amputation of the thigh. In the first the sulphite of magnesia was given (about two drachms a day) after pyæmia had set in; in the second, before the septic symptoms had occurred: in both successfully. Dr. Ferrani observes that a sufficiency of water should be given with the sulphite of magnesia, as it requires twenty parts of water for its solution, sulphite of soda requiring only four. Acid drinks should be avoided. Let those surgeons who now so steadily follow Lister's plan give the sulphites also; they will then, according to Pasteur's and Polli's theories, attack the enemy on both flanks.—Lancet, Jan. 2, 1869.

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New Treatment for Gonorrhœa. - Dr. H. Didtmann, of Linnich, has devised Der-Praktische Artz 9, 1868) the following plan of treating this disease, both in the acute stage, and also in obstinate chronic cases. The patient having been made to urinate, or his urethra having been washed out with an injection of lukewarm water, a bougie is prepared in the following manner: Its point is besmeared to the length of about an inch and a quarter, with an ointment (invented by Niemeyer,) in which from one to two parts of nitrate of silver and a rather smaller quantity of liq. plumbi diac. are rubbed up with forty parts of ung. cetacei. The point, thus besmeared, is then dipped in a mixture of cod-liver oil and glycerine (equal parts), and introduced into the urethra to the exact length of the anointed portion; it is held there for ten minutes. At the next urination the excess of greasy matter is discharged as a wax-like pellet. This process is repeated thrice daily —morning, noon, and evening; under some circumstances at night also. In proportion as the sensitiveness of the urethra diminishes, less and less of the diluent oil and glycerine is used, till at last the nitrate of silver ointment is employed unguarded. The cure is rapid, and involves no aggravation of the pain.—The Practitioner, Dec. 1868.

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Triplets—two of which were Blighted.—Mr. W. V. Lyle states (British Med. Journal, Oct. 24, 1868) that he was called July 27, 1868 to a woman in labour. Digital examination showed the os dilated to the extent of a crown, and the head normally presenting. The membranes were unbroken. To the left and posterior side of the os, an undefined and movable body intervened between the membranes and the presenting head. After a short time, he ruptured the membranes, and almost immediately was expelled a blighted fœtus of about four months' growth. The fœtus was attached by an attenuated cord. The labour progressed favourably, and a living female child of about eight months was born. A few minutes after the placenta was expelled, and in connection with it, was a separate sac, containing another blighted fœtus, apparently of the same age —not, however, connected by any cord. The mother made a good recovery. The infant is also doing well.

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Case of Strychnia Poisoning; Recovery. —Dr. John W. Keyworth reports (Glasgow Med. Journ., Nov. 1868) the case of a woman with suicidal tendency, who had taken three grains of strychnia. He was called to see her eight hours after the ingestion of the poison. He found her body and limbs perfectly rigid with spasm, which, when occasionally relapsed, was excited by merely blowing in her face, or by the shaking of the floor in walking. She was speechless, but conscious, face livid, jaws fixed. She had been in this condition for five hours. Dr. V. administered tincture of Calabar bean, pouring it into the mouth where a tooth was absent. The effect of the Calabar bean was apparent in about twenty minutes after taking the first dose, and became more apparent and decided after each repetition.

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Turpentine as an Antidote to Phosphorus. —The Archives Gén. de Médecine calls attention to the custom of the workmen in a match factory at Stafford, who apply phosphorus to the matches, of carrying on their breast a tin cup, containing essence of turpentine. This precaution is said to be sufficient to prevent any ill effects from the action of the phosphorus. It was previously known that the vapour of turpentine prevents the ignition and even the phosphorescence of phosphorus, but the practical application of this knowledge is not so generally adopted as it should be.

New Mode of Preparing Objects for the Microscope.—M. Rauvier proposes (Archives de Physiologie), a new and simple method, which consists in the employment of picric or carbazotic acid. This acid is only moderately soluble in water, and a saturated solution may therefore be employed. It possesses the further advantage of being very cheap. It is admirably adapted for all tissues containing much blood, and therefore for specimens of liver, lung, &c. It appears to act by effecting coagulation of the albuminous substances, though, unlike alcohol and chromic acid, it does not occasion any fusion of the constituents of the tissue. The red globules retain their form and characters extremely well. The portion of tissues required to be examined should be plunged into the solution, and after the lapse of twenty-four hours it will be found to have acquired sufficient firmness to permit of very fine sections being made with a razor. The saving of time by this method as compared with the chromic acid is immense. The preparations will take color from carminate of ammonia, and may be preserved in glycerine.—Lancet, Nov. 21, 1868.

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Inoculation of Plants with Tubercular Matter.—M. Desmartis, of Bordeaux, has succeeded in inoculating upon plants tubercular matter taken from the human lung. The result has been the production of a particular kind of mycelium. This leads M. Desmartis to establish a comparison between tubercle and sphacelia, or ergot of rye.—Lancet, Oct. 17, 1868.

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The Acouoxylon.—This is the designation which Dr. Paul Niemeyer, of Magdeburg, proposes to give to a modification of the stethoscope. He draws attention to the fact that Laennec's hollow instrument is only an imperfect conductor of sounds, through the two media air and wood. Chladni and Savart have established that wood is a far more perfect conductor than air, and that deal is eighteen times superior to air in this particular. On this account solid deal is always employed in musical instruments when the mere conducting of sound is the object in view. He recommends, therefore, that practitioners should deliver the stethoscope which by practice they have found most convenient into the hands of a turner, and desire him to construct a solid copy of well-seasoned deal, all in one piece. This, the "acouoxylon," is the only stethoscope constituted according to the law of physics, and in consequence it is superior to Laennec's cylinder.—Med. Times and Gaz., Dec. 19, 1868, from Gazette Méd. de Paris.

[There is no novelty in this proposition; solid stethoscopes were constructed many years since.]

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Sir Charles Bell's Discoveries.—To those interested in the discoveries of Sir Charles Bell, we commend the perusal of his pamphlet—"Idea of a new Anatomy of the Brain," only three of the original copies of which are known to be extant. Its reprint with letters, now for the first time published, written by the author of the Essay to his brother George Joseph Bell, between the years 1807 and 1821, in the number of the Journal of Anatomy and Physiology for Nov., 1868, is very opportune, as his exact claims have been often misunderstood, and at the present moment are attracting much attention both in this country and abroad.

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Death by Forcing Air into the Eyes.—A paragraph has lately gone the round of the papers stating that a Professor Casturani, "the celebrated oculist" of Turin, had discovered a way of killing animals "by forcing air into their eyes." The paragraph certainly struck us as one of the silliest of the silly season; but as it had been largely circulated, and had drawn some attention, we thought it right to refer it to an eminent experimental physiologist, by whom we have been favoured with the following report, which seems to us to relegate the matter to a class of thoroughly well-known phenomena, and at the same time is well fitted to allay any public anxiety. He writes:—

"1. The statement that immediate death follows the injection of the eyeball with air is not true.

"2. If air be not driven into the eyeball, but into the skull through the optic foramen, the animal (the experiment has reference to a rabbit) dies at once.

"3. The experiment in any case is difficult.

"4. On the human subject the operation could not possibly be performed without extreme violence.

"5. After death from the process, as

stated above, the indications of the cause of death are well marked, and would be detected by any skilled observer. The wound in the conjunctiva and in the structures of the orbit would be discoverable. Air and frothy blood would be found in abundance beneath the membranes of the brain, and even of the spinal cord. Air would be also in abundance in the cavities of the heart and mixed with the blood generally.

"6. Physiologically the subject is of some importance, but the safety of the public is in no sense imperilled by the so-called discovery."—Med. Times and Gaz., Oct. 31, 1868.

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Secret Poisonings at Marseilles.—In our previous No., p. 15, we noticed some horrible cases of this at Geneva; and we have to report others, if possible more horrible, occurring at Marseilles. Several women have been brought to the bar there charged with disposing of their husbands by means of arsenic and belladonna, one of whom avowed the crime and accused others. The whole was clearly proved to be true on the trial. This trial throws light on a certain portion of French society.

"The accused women seem to have possessed little conscience, for they exhibited no compunction for their enormous crimes, and seem to have provided each other with white powder, &c., as a specific against inconvenient husbands with as much nonchalance as can possibly be conceived. Superstition, credulity, ignorance, and crime, abound in the details."

We omit the testimony of the scientific witnesses, but that of one of the others shows that these murders were committed with such coolness and atrocity that we will notice it. It was stated by the witness that the instructions given for administering the poison were most minute. "He said the woman warned him when she gave him the substance not to be too fast, but to go to work cautiously and slowly. She also told him that when the vomiting which would follow the dose took place, all the matters must be thrown away before the doctor was sent for; that he, not seeing it, would probably call the attack a gastric fever, and would prescribe magnesia and lemonade, into which a little pinch of the white powder was to be put. On the next visit the doctor would call it typhoid, and in four or five days the affair would be over." All the women were found guilty.—Medical Press and Circular, Dec. 23, 1868.

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Composition of Solar Prominences.—The late eclipse of the sun has led to some scientific results of great importance. It will be known to most of our readers that in a total eclipse of the sun the whole of the sun's disk is rendered dark, with the exception of a bright margin which edges its circumference. In previous eclipses prominences, or protuberances, or processes of light, some of them extending thirty thousand miles into space, have been seen jutting from the bright rim. It is now proved, on the evidence of M. Janssen, confirmed by Captain Herschel and Major Tennant, all of whom observed the eclipse in India, that these solar prominences are composed of incandescent gas, inasmuch as their spectra consist of bright lines. It has, moreover, been discovered almost contemporaneously by Mr. Norman Lockyer and M. Janssen that these prominences can be spectroscopically examined at other times than on the rare occasions of a solar eclipse. Mr. Lockyer, by the aid of a spectroscope which, at the expense of the Royal Society, has been fitted to his telescope, has been able to examine a solar prominence, and to fix the position of three lines in its spectrum; one corresponding to C absolutely, one to F very nearly, and one being more refrangible than the most refrangible D line. M. Janssen's observations lead him to the belief that these vast masses of incandescent gas are principally composed of hydrogen. One of Mr. Lockyer's lines, however, does not correspond with any known dark line of the spectrum.—Med. Times and Gaz., Nov. 7, 1868.

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Oceanic Life at Great Depths.—At a meeting of the Royal Microscopical Society on Wednesday night, the 9th instant, Dr. Carpenter anticipated his paper already presented to the Royal Society by offering some remarks on, and exhibiting specimens illustrative of, his recent deep-sea inquiries. It will be in the memory of our readers that in the autumn Dr. Carpenter and Professor Wyville Thompson, of Queen's College, Belfast, went out, under government auspices, to conduct certain biological and physical investigations into the characters of the fauna and the temperature of the water at great depths. The expedition was carried

out with the greatest success, and with the most remarkable results. The researches of Dr. Wallich and other able zoologists had determined that the dictum of Forbes respecting the depth at which animal life existed was unfounded, and that animals existed at a depth of several hundred fathoms in the ocean. Dr. Carpenter now confirms this fact, and extends it in many important directions. In the very interesting sketch of his excursion given by Dr. Carpenter it was shown that even at depths so great as 650 fathoms in a line southwest (?) of the Faroe Islands the dredge brought up not only Globigerinæ and similar low forms of animal life, but representatives of all the great invertebrate types. Many of the specimens of Protozoa captured at this depth were exhibited by Dr. Carpenter, and some of them were certainly extraordinary samples of classes whose members are generally extremely minute. Indeed, these discoveries of Dr. Carpenter open up to us quite a new phase of animal life, and reveal a vast field for physiological speculation and inquiry. Of the specimens exhibited under the microscope we noted the following: Cristelaria, Textularia, Cornuspira, Trochamina, Lituola, Rhabdammina and Astrorhiza limicola. The last especially is a most remarkable creature, and one likely, we should think, to afford zoologists many difficult problems for solution. In reference to the results of the physical discoveries, one of the most singular and noteworthy is that of temperature. Several carefully conducted soundings have convinced Dr. Carpenter and his colleague that whilst the surface water has an almost invariable temperature of 52°, the heat at great depth varies exceedingly. Thus at one point in their voyage they found, at a depth of 500 fathoms, that the temperature was 32°—a fact which is explained by the supposition of a cold Arctic stream flowing from the northeast, and apparently coming between the fork of the Gulf-stream. Another interesting fact established by these inquiries is that even at a temperature in the ocean almost that of our freezing-point there are an abundance and variety of animal forms which could not have been predicated. Dr. Carpenter's researches will soon be laid before the public *in extenso*, but in the meantime we could not resist bringing the above extraordinary and unexpected results under the notice of our readers.—Medical Times and Gazette, Dec. 12, 1868.

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Hair-Washes.—It is only right to refer to a source of possible disease which is peculiarly widespread just now, and against which the public should be cautioned. At the present time there is quite a rage for the use of hair "washes" or "restorers," which, whilst the charge of their being "dyes" is indignantly repudiated, yet in a short time "restore" the colour of the hair. The active agent in these washes is, of course, lead. In the majority of cases, probably, a moderate use of such a lotion would be unattended with mischief; but it is worth remembering that palsy has been known to be produced by the long-continued use of cosmetics containing lead. Of the thousands of persons who are now applying lead to their scalps, there will doubtless be some with an extreme susceptibility to the action of the poison, and these will certainly run no inconsiderable risk of finding the "restoration" of their hair attended by loss of power in their wrists.—Lancet, Aug. 15, 1868.

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How to deal with Criminals.—The Daily News approves of Mr. E. Hill's proposal to attack not merely the thieves, but the thieves' houses, the pawnbrokers who take their plunder, the tool-makers who supply them with implements. It is almost necessary for their avocation that thieves should live together. Their haunts are well known to the police, and evidence of one or two residents having been convicted would sufficiently corroborate in this matter police suspicions. There would be no new principle involved in making owners of such houses indictable. The law already does so in regard to brothels; and a public house that harbours disorderly persons loses its license on conviction. The old adage which John Knox applied to the monasteries will here prove true, "Pull down their steeples, and the daws will fly away." The thieves' landlord is their abettor, if not their patron, teacher, and master. We must make him responsible for their conduct, for it is certain that he cannot long give them shelter without knowing their character and avocations.—Medical Press and Circular, Dec. 23, 1868.

ATLAS OF VENEREAL DISEASES.

By A. CULLERIER, Surgeon to the Hôpital du Midi, &c. Translated from the French, with Notes and Additions, by FREEMAN J. BUMSTEAD, M. D., Professor of Venereal Diseases in the College of Physicians and Surgeons, New York. With 145 beautifully colored figures on 26 plates. In one very handsome volume, imperial quarto, of 328 double-column pages, strongly bound in cloth. Price $17. Also, in five parts, in stout wrappers, price $3 per part.

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The several parts, as they have appeared, have commanded the unanimous approbation of the medical press, a few extracts from which are subjoined:—

It was with unmingled satisfaction that we heard the announcement that the French surgeon's magnificent treatise was to be reproduced in this city, in a style which would be in every respect worthy of the original, and yet which would be offered at such a price as to be readily attainable by every surgeon throughout the whole extent of the United States. The first portions of this splendid book have already formed the subjects of short bibliographical notices in the numbers of this Journal for April and July, 1868. But now that it is complete, and stands before the profession in its goodly proportions as a whole, it becomes our duty to offer our readers a more elaborate and a more critical review of its many and great excellences. The 76 plates of the original are here accurately reproduced on 26 plates containing 145 figures. These we have very carefully examined, and have no hesitation in pronouncing them to be the best illustrations of any medical work in our language with which we are acquainted. The most splendidly illustrated work in the language, and in our opinion far more useful than its French original. It is besides furnished at little more than one-half the price of the French edition, and must, we think, remain for a long time the most desirable book on venereal diseases attainable by the American practitioner.—*Am. Journ. Med. Sciences*, Jan. 1869.

The fifth and concluding number of this magnificent work has reached us. It treats of constitutional syphilis; and we have no hesitation in saying that its illustrations surpass those of the previous numbers. Very great credit should be given to the publisher for the enterprise and liberality he manifests in incurring the pecuniary risk of reproducing so costly a work. We trust he will be sustained by the profession; and we feel sure that every physician will find these volumes invaluable for reference.—*Boston Med. and Surg. Journ.*, Jan. 14, 1869.

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